Northern New Mexico Citizens' Advisory Board Meeting
April 8, 2009
9:00 a.m. to 12:00 p.m.
Holiday Inn
4048 Cerrillos Road
Santa Fe, New Mexico

MINUTES

In Attendance:

NNMCAB Members-

1. **J.D Campbell, NNMCAB Chair**
2. **Ralph Phelps, NNMCAB Vice Chair**
3. **Mike Loya, EMSR Committee Chair**
4. **Gerry Maestas, WM Committee Chair**
5. **Pam Henline, EMSR Committee Vice Chair**
6. **Peter Baston**
7. **Robert Gallegos**
8. **Jane Gaziano**
9. **Jacquelyn Gutierrez**
10. **Kyo Kim**
11. **Ken LaGattuta**
12. **Lawrence Longacre**
13. **Evelyn Martinez**
14. **Caroline Mason**
15. **Patricia Medvick**
16. **Deb Shaw**
17. **Robert Villarreal**

Excused Absences-
Kathleen Hall
Absent-
Karen Torres

NNMCAB Staff-
Menice Santistevan, Executive Director
Lorelei Novak, Technical Programs and Outreach
Grace Roybal, Office Administrator
Edward Roybal, Sound Technician

Also in Attendance-
Melissa Nielson, DOE/HQ
Jeffrey Casalina, Deputy Designated Federal Officer (DDFO)
George Rael, DOE/LASO
Rich Mayer, EPA
Michael Graham, LANS

Guests in Attendance-

1. **Frank Clifford, Los Angeles Times**
2. **Steve Yanicak, NMED Oversight Bureau, Los Alamos Office**
3. **Hai Shen, DOE/LASO**
4. **Kim Granzow, NMED Oversight Bureau, Los Alamos Office**
5. **Lorrie Bonds-Lopez, LANS**
6. **Joni Arends, Concerned Citizens for Nuclear Safety**
7. **Michael Graham, LANL**
8. **Marian Naranjo, HOPE**
9. **Bob Gilkeson, Public**
10. **Fran Berting, Public**
11. **Phyllis Chaloupka, Citizen**
12. **Neil Weber, Pueblo de San Ildefonso**
13. **Paul Huber, LANL**
14. **Fred DeSousa, LANL Communications**
15. **Edward Mignardo, DOE/AC**
16. **Paul Miskimin, Winning Ways Int.**
17. **Pam Gilchrist, NM Conference of Churches**
18. **Michael Patrick, Ecovision**

MEETING AGENDA:

I. Call to Order- Jeffrey Casalina, DDFO.

II. Establishment of Quorum- (10 needed)

- **a. Roll Call- 17 members**
- **b. Excused Absence- Kathleen Hall**

III. Welcome and Introductions.

IV. Approval of Agenda.

V. Public Comment Period.

VI. Presentation from Kerr Laboratory (Environmental Protection Agency)"Well Screen Analysis Report: Review and Recommendations"

VII. Adjournment-Jeffrey Casalina, DDFO.

MINUTES

I. Call to Order- Jeffrey Casalina, DDFO.

A special meeting of the Northern New Mexico Citizens' Advisory Board (NNMCAB or CAB) was held on April 8, 2009 at the Holiday Inn, Santa Fe, New Mexico. The Chair, J. D. Campbell presided. Jeffrey Casalina, Deputy Designated Federal Officer (DDFO) stated that on behalf of the Department of Energy (DOE), the special meeting of the NNMCAB was called to order at 9:00 a.m. The special meeting of the NNMCAB was open to the public and posted in *The Federal Register* in accordance with *The Federal Advisory Committee Act*.

II. Welcome and Introductions. Establishment of Quorum- (10 needed)

Dr. Campbell welcomed the members and guests to the special meeting of the CAB. Ms. Novak conducted role call and established a quorum with 17 members present at the meeting. Mr. Casalina granted an excused absence for Ms. Kathleen Hall. Dr. Campbell announced a conference call-in number was available for the meeting.

Dr. Campbell introduced Ms. Melissa Nielson, Director, Office of Public and Intergovernmental Accountability, DOE Headquarters who attended the special meeting. Dr. Campbell welcomed two new Board members, Jacquelyn Gutierrez and Evelyn Martinez. Both women introduced themselves and their biographies are briefly stated below:

> *Ms. Gutierrez is an Environmental Specialist for the Eight Northern Pueblos Council, INC where she works to empower native communities by sharing essential tools, which protect, preserve and enhance tribal lifestyles within tribal lands. Ms. Gutierrez also served as an Environmental Culturist for the Santa Clara Pueblo Office of Environmental Affairs where she was involved with plan, schedule, scope and compliance. She also served as a Program Manager for the Indigenous Communities Mapping Initiative. Ms. Gutierrez provided technical support for the Los Alamos National Laboratory' network of environmental monitoring stations. Ms. Gutierrez holds an Associates Degree in Applied Science Electronic Engineering Technology from the ITT Technical Institute in Albuquerque, New Mexico. Ms. Gutierrez resides AT Santa Clara Pueblo.*

Ms. Martinez currently works in the Office of Environmental Technical Assistance for the Eight Northern Pueblos Council, Inc as an Environmental Technician. Her work involves developing a pro-active approach to assist Pueblos in New Mexico assess potentially damaging air emission sources and to provide training to environmental personnel. Ms. Martinez has served as an Environmental Specialist and Radon Project Coordinator for the Taos Pueblo Environmental Office. She holds an Albuquerque Technical-Vocational Certificate in Office Operations. Ms. Martinez has received extensive training through the Institute for Tribal Environmental Professionals at the Northern Arizona University. Her training includes Educational Outreach, Management of Tribal Air Programs and Grants, Outreach for Air Quality Professionals, Air Pollution and Ecosystems, Air Quality and Community Health. She has studied Environmental Sampling Methods through the Cherokee Nation's Inter-Tribal Environmental Council. Ms. Martinez has worked with the US EPA and the State of New Mexico Environmental Office. She is also a recent Scholarship Recipient, EPA Asthma Forum in Washington, DC. Ms. Martinez is a resident of Taos.

III. Approval of Agenda.

Dr. Campbell entertained a motion to approve the agenda. Mr. Phelps made a motion to approve the agenda as presented. Mr. Loya seconded the motion. The agenda was approved unanimously.

IV. Public Comment Period.

Mrs. Roybal announced no one signed up for public comment.

V. Presentation from Kerr Laboratory (Environmental Protection Agency) "Well Screen Analysis Report: Review and Recommendations"

Dr. Campbell introduced the presenters, Mr. Steven D. Acree and Mr. Richard T. Wilkin from the Office of Research and Development, National Risk Management Research Laboratory/Ground Water & Ecosystems Restoration Division, EPA, Ada Oklahoma. Mr. Acree and Mr. Wilken would present a subject matter report entitled, "Well Screen Analysis Report Review and Recommendations," which was prepared as a response to a request from the CAB outlined in a letter dated November 20, 2007 to Mr. Rich Mayer, CAB Liaison member, to review the following two Los Alamos National Laboratory (LANL) Reports:

1. *Well Screen Analysis Report, Revision 2, LA-UR-07-2852 May 2007, http://www.lanl.gov/prr/Water/PRR-WTR-0020.pdf*

2. *Groundwater Background Investigation Report, Revision 3, LA-UR-07-2853 May 2007,*
http://www.lanl.gov/environment/h2o/docs/FinalGWBackgroundIRR3.pdf

Dr. Campbell highlighted the original request made to Mr. Mayer on November 20, 2007. Dr. Campbell stated on behalf of the NNMCAB, he was pleased to have had the assistance and support of the EPA, and specifically from Mr. Rich Mayer as the Ex-Officio Member of the NNMCAB. The request was made by the CAB for this review in order to help the citizens of northern New Mexico understand critical issues related to the performance of groundwater monitoring wells at LANL and the potential for impacts to these wells caused by the use of organic and clay drilling fluids.

The questions the NNMCAB had related to the existing WSAR Rev. 2 and the Background Report, Rev. 3 included the following:

1) Does the methodology in the WSAR Rev. 2 ensure that the potentially impacted well screens judged to be 'good' will actually provide representative samples of aquifer water such that the samples may be analyzed to detect trace constituents, including sorbing radionuclides if present, in the adjacent aquifer? The NNMCAB understands that the well screens must be purged prior to sampling to meet the requirements of the NMED Consent Order and EPA RCRA Guidance. The NNMCAB is aware of past statements by the EPA of the need to evaluate changes in aquifer chemistry resulting from the impacts of organic drilling fluids. Do these potential changes in aquifer chemistry or any other issues contribute to significant residual uncertainty in the ability of the WSAR Rev. 2 methodology to evaluate and judge the acceptability of potentially impacted well screens for use in a groundwater monitoring program to meet data quality objectives and to detect trace level contaminants, if present, in the aquifer?

2) Was there significant uncertainty in the characterization of background water quality at LANL? Does the methodology used in Background Report Rev. 3 ensure that the characterization of background water quality could be used effectively as a screening tool adequate for all relevant areas at LANL?

3) If the EPA believed there was significant residual uncertainty in either of the methodologies outlined in the WSAR Rev.2 or the Background Report Rev. 3, the NNMCAB would appreciate hearing the EPA's viewpoint on procedures, sampling methodologies and/or analyses which are implementable and may significantly reduce any such remaining uncertainty in the analyses of potentially impacted well screens and the ability of the subject wells screens to produce

representative samples of aquifer water or in the characterization of background water quality at the facility.

Special Presentation:

"**Well Screen Analysis Report Review and Recommendations**"

Mr. Acree described the presentation as an "EPA Region 6 Support Request" from Mr. Rich Mayer to review the **Well Screen Analysis Report, Revision 2, LA-UR-07-2852 May 2007, http://www.lanl.gov/prr/Water/PRR-WTR-0020.pdf and Groundwater Background Investigation Report, Revision 3, LA-UR-07-2853 May 2007, http://www.lanl.gov/environment/h2o/docs/FinalGWBackgroundIRR3.pdf**
Mr. Acree explained that the review was a technical review requested by the regulatory arm of the EPA.
The review focused on:

- A technical evaluation of site-specific conditions.
- The review was not policy and not generic guidance.

Findings from the review included:

- Problems with Drilling Additives lead to reduction of hydraulic conductivity.
- Bentonite has significant sorption capacity for some inorganic contaminants.
- Degradation of residual organic-based drilling fluids can alter aqueous geochemistry, mineralogy, and permeability.

Review Summary:

- Current versions of reports recognize and attempt to address previous comments made by the EPA.

Remaining Concerns:

- Validation of screening results.
- Uncertain "background" conditions.
- Continuing impacts to aquifer materials after return of oxidizing groundwater conditions.
- Need for more data validation would be the biggest way to reduce uncertainty.
- In addition, conduct more field studies to raise confidence and validate results of WSAR.
- Additional Lab studies would be needed to validate the data.
- Evidence regarding conditions surrounding well screens is currently indirect.

- Need for studies to quantify sorption of contaminants onto natural, added, and, possibly, altered materials noted by National Research Council (2007).

Additional Issues:

- Remaining uncertainty in background conditions.
- Background picture conditions—backgrounds are different than in well areas. The issue with background conditions is that this assumption cannot be used to validate data and the WSAR relies heavily on background conditions.
- Continuing impacts to aquifer materials following return to oxidizing groundwater conditions.
- Long screen verses short screen wells can produce different results, ambient data was impacted by these factors, are the background data set truly representative.
- "Background" data are derived from locations and aquifer units that are often different from hydrogeologic characterization wells with respect to flow paths and residence times.
- Data are not necessarily comparable with data from short-screened monitoring wells.
- Example: Dissolved zinc concentrations in R-35B higher than maximum reported in Groundwater Background Investigation Report.

Recommendations from the Review:

- Reduce Uncertainty.
- Install upgradient wells to better define pre-drilling conditions.
- Lab studies needed to better understand to determine the impacts of additives on redux conditions.
- Field studies to validate results, obtain actual mineralogy samples.
- Consider conducting "Push Pull" Tests.
- Mr. Acree noted these recommendations agree with the findings in the National Academies of Sciences Report, "Plans and Practices for Groundwater Protection at the Los Alamos National Laboratory: Final Report."

Mr. Paul Huber, LANL, made brief remarks. He presented the following: LANL Graphics, "Daily Wells Summary Performance Metric 040809.pdf" and "Map of Science.jpg." He addressed both slides.

The "Map of Science" illustrated the cross section of scientific capabilities used at LANL to bring viewpoints to the table. The second slide illustrated all the news wells planned and or that were currently in the process of completion at LANL. Ms. Joni Arends requested copies of Mr. Huber's handouts.

Mr. Huber explained that the Lab actively worked to gather more data to reduce uncertainty and they continue to collect data to add to the weight of evidence to reduce overall uncertainty. Mr. Huber touched on areas raised in

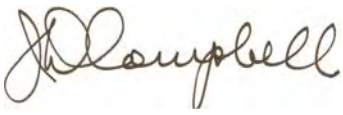
the Ada Review and the Lab has already recognized and addressed many of the issues raised in the report.

1- Background issue—Mr. Huber stated they have a good background set of data, but they do intend to bring in statisticians to do analysis of where the best places to locate any additional background wells.
2- The Lab has been working diligently since last summer drilling new wells to enhance the overall monitoring well program.
3- Peer review was utilized to add to the Lab's overall decision-making process.
4- Well networks are set up collaboratively; the goal was to have a 95% certainty of environmental conditions, and if they did not have a 95% certainty then the program would necessitate installing more wells to bridge this gap.
5- The new wells have used casing advance in targeted aquifer zones. Mr. Huber explained the new wells have helped to fill in many of the data gaps and thus have and would continue to significantly reduce the issue of remaining uncertainty.

VI. Adjournment-Jeffrey Casalina, DDFO.

The PowerPoint Presentation given by Mr. Acree and Mr. Wilken can be requested form the CAB office by print or electronic copy. With no further business to discuss, Mr. Casalina, DDFO, adjourned the meeting at 12:00 p.m.

Respectfully submitted,



J. D. Campbell, Ph.D., P. E., Chair, NNMCAB

**Minutes prepared by Lorelei Novak, NNMCAB Technical Programs and Outreach*

Attachments:

1. **EPA Memorandum dated March 30, 2009 Subject: Los Alamos National Laboratory (LANL), Los Alamos, NM (09RC06-001) Well Screen Analysis report (WSAR), Rev. 2 (LA-UR-07-2852) and Groundwater Background Investigation Report (GBIR), Rev. 3 (LA-UR-07-2853)**
2. **"Well Screen Analysis Report Review and Recommendations," Steven D. Acree and Richard T. Wilkin, Office of Research and Development, National Risk Management Research Laboratory/Ground Water & Ecosystems Restoration Division**
3. **Letter from NNMCAB Regarding Request for EPA Review and Comment to NNMCAB on Two Los Alamos National Laboratory (LANL) Reports:** *Well Screen Analysis Report,*

Revision 2, LA-UR-07-2852 May 2007, http://www.lanl.gov/prr/Water/PRR-WTR-0020.pdf Groundwater Background Investigation Report, Revision 3, LA-UR-07-2853 May 2007, http://www.lanl.gov/environment/h2o/docs/FinalGWBackgroundIRR3.pdf

4. **National Academies of Sciences Reports from the "Technical Assessment of Environmental Programs at the Los Alamos National Laboratory Project": "Plans and Practices for Groundwater Protection at the Los Alamos National Laboratory: Interim Status Report," "Plans and Practices for Groundwater Protection at the Los Alamos National Laboratory: Final Report."**
5. **LANL Graphic from Mr. Paul Huber, "DAILY WELLS Summary Performance Metric 040809.pdf."**
6. **LANL Graphic from Mr. Paul Huber, "Map of Science.jpg."**

Public Notice:

***All NNMCAB meetings are recorded in accordance with the Federal Advisory Committee Act. Audiotapes have been placed on file at the NNMCAB Office, 1660 Old Pecos Trail, Suite B, Santa Fe, New Mexico, 87505.**

***Reference documents listed in the Appendix section of these minutes can be requested for review at the CAB office in Santa Fe.**

***For more information regarding audio transcription or any information referenced to or contained here in these minutes, please call the CAB office at (505)-989-1662.**